Patent
Attorney's Docket No. 031941-096

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Klas NORDSTRÖM et al.	)	Group Art Unit: Unassigned
	)	
Application No.: Unassigned	)	Examiner: Unassigned
	)	
Filed: November 5, 2001	)	
	)	
For: Telecommunications Network Resource Handling Arrangement and Method	)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Before examination, please amend this application as follows

IN THE SPECIFICATION

Page 1, line 1, please delete the section heading entirely;

Page 1, line 7, please replace the section heading with --BACKGROUND--;

Page 1, line 19, please delete the section heading entirely;

Page 2, line 31, please replace the section heading with --SUMMARY--;

Page 6, line 10, please replace the section heading with --DETAILED DESCRIPTION--.

Please **REPLACE** the paragraph beginning at page 2, line 11, with the following:

--EP-A-0 820 203 shows a method and an arrangement for making use of resources in a telecommunications network. This arrangement/method is however not satisfactory for several reasons. For example, it does not satisfactorily take into account the time that a resource exists. To do that, attributes have to be added containing information about time of existence. However, this would have to be done for every resource to make it meaningful, which would considerably reduce the performance.--

Please **REPLACE** the paragraph beginning at page 7, line 19, with the following:

--The concept of resources is used in order to have a concept for all "real" things in the system. It is very important to distinguish between two things, resource creation, e.g., installation of a new telephone line, and resource allocation, e.g., changing the state of an existing telephone line from unused to used.--

Please **REPLACE** the paragraph beginning at page 10, line 11, with the following:

--In a particular implementation the database arrangement comprises fields enabling the use of a regular code (e.g. C, JavaTm) if needed, which gives a high flexibility. According to the invention every resource does not necessarily have an (explicit) connection.--

Please **REPLACE** the paragraph beginning at page 12, line 10, with the following:

--A simplified view of the flow of information is that a Common Service Description Layer (CSDL) command is sent by the SRP 14 to SARM 18 where it is translated to an Atomic Service Description Layer ASDL command and routed to SRIM 19. The SRIM 19 then asks STDB 17 and SRDB 16 for additional information, which is used to make a new CSDL command that is translated to an ASDL command and routed to the NEP 15. The response from the NEP 15 follows in principle the same way backwards, where return status and data is used to update the SRDB 16.--

Please **REPLACE** the paragraph beginning at page 13, line 11, with the following:

--In step 2, assuming that the customer wants the product or service (a product is used by example below), a feasibility check is made to check if it is possible to implement the product or service with the existing conditions, i.e. if all prerequisites are fulfilled. Now a "call" for this code is made. As the execution starts, this code uses the product type input to look in the Product type hierarchy. By looking here it is possible to find out which (sub)products the DuoCom product is composed of. In this case the four product types ISDN Access, E-mail, Personal Homepage and 020-connection will be found. As they in turn may consist of additional, more simple products, the Product type hierarchy is once again examined to see if the new products have sub products and so on until no more product types are found.--

Please **REPLACE** the paragraph beginning at page 13, line 26, with the following:

--As some of the (sub)products may be optional, i.e., the end customer has to be asked which (sub)product is desired and informed about the possible choices. This results in an interactive loop in which the customer picks the desired (sub)products. As these (sub)products are selected, the Product type operation parameters and the Product type parameter tables are examined to find out which parameters are needed. As this selection of (sub)products is dynamic to its nature, the Product type relations table is examined to check that combinations of incompatible product types are not accidentally created. When this loop has ended, the Product type prerequisites and the Product type resource prerequisites tables are examined with regard to Product instance data and resource data, if the sufficient amount of resources or existing product instances are available, so that it is possible to instantiate this new product instance.--

Please **REPLACE** the paragraph beginning at page 14, line 29, with the following:

--All data is stored in a relational database(s), see FIG. 4 which shows the table names and the fields in each table that has relations to/from them together

with the relationship type, e.g., 1, n is one-to-many. The tables may be created by reading from standard text files with SQL commands.--

Please **REPLACE** the Abstract with the following:

--A resource handler for use in an operational support structure for managing a telecommunications network. The handler includes a service and resource database containing information regarding network resources. The database arrangement is structured so that each resource in the network has a time of existence as well as a place in a hierarchy of parent/child relations. The resource is defined by the following data: a point identifier that has characteristics associated with it, in the form of an abstract description of the resources capabilities; an abstraction of a common network element represented by a group of points that are considered to belong together, and a connection, which is defined by two connected points.--

Please **ADD** the following paragraphs to the application after page 14, line 32:

--It should be emphasized that the terms "comprises" and "comprising", when used in this specification as well as the claims, are taken to specify the presence of stated features, steps or components; but the use of these terms does not preclude the presence or addition of one or more other features, steps, components or groups thereof.

Various embodiments of Applicants' invention have been described, but it will be appreciated by those of ordinary skill in this art that these embodiments are merely illustrative and that many other embodiments are possible. The intended scope of the invention is set forth by the following claims, rather than the preceding description, and all variations that fall within the scope of the claims are intended to be embraced therein.--

IN THE CLAIMS

Please **CANCEL** claims 1-26.

Please **ADD** new claims 27-52 as follows:

27. A resource handler for use in an operational support structure for managing a telecommunications network, the resource handler comprising a service and resource database arrangement containing information regarding network resources, wherein the database arrangement is structured so that each resource in the network has a time of existence as well as a place in a hierarchy of parent/child relations, and each resource being defined by data comprising:

a point identifier that has characteristics associated with it, representing an abstract description of the resources capabilities;

an abstraction of a common network element represented by a group of points that are considered to belong together; and

a connection being defined by two connected points.

28. The resource handler according to claim 27, wherein the point identifier also has characteristics associated with it in the form of a list of label/value pairs.

29. The resource handler according to claim 27, wherein the common network element acts as a container for points, with an implicit characteristic that points on elements may cross-connect.

30. The resource handler according to claim 27, wherein the database arrangement is structured so as to model a topological view.

31. The resource handler according to claim 27, wherein the database arrangement is structured so as to model a time view.

32. The resource handler according to claim 27, wherein the database

arrangement is structured so as to model a hierarchic view.

33. The resource handler according to claim 27, wherein the database arrangement is structured so as to model a characteristic view, which includes a list of characteristics of each resource.

34. The resource handler according to claim 27, wherein the database arrangement is structured so as to model a usage view, which includes what resources are combined to form a complete service instance and the time when that service instance exists.

35. The resource handler according to claim 27, wherein the database arrangement structure is integrated in a data model for enabling control of each resource and the use of it in service instances.

36. The resource handler according to claim 27, wherein the database arrangement is separated into a first database comprising resource types and resource instances and a second database comprising service types and service instances.

37. The resource handler according to claim 27, wherein resource and/or service attributes are typed to distinguish between attribute types.

38. A method of structuring information in a resource handler database for use in an operational support structure for managing a telecommunications network, the support structure comprising a service and resource database arrangement containing information regarding network resources, the method comprising the steps of:

allocating to each resource in the network a time of existence as well as a place in a hierarchy of parent/child relations; and

defining each resource by associating data comprising:

a point identifier that has characteristics associated with it representing an abstract description of its capabilities;

an abstraction of a common network element represented by a group of points that are considered to belong together; and

a connection being defined by two connected points.

39. The method according to claim 38, wherein the characteristics associated with the point identifier include a list of label/value pairs.

40. The method according to claim 38, wherein the common network element acts as a container for points, with an implicit characteristic that points on elements may cross-connect.

41. The method according to claim 38, wherein the database arrangement is structured so as to model a topological view.

42. The method according to claim 38, wherein the database arrangement is structured so as to model a time view.

43. The method according to claim 38, wherein the database arrangement is structured so as to model a hierarchic view.

44. The method according to claim 38, wherein the database arrangement is structured so as to model a characteristic view.

45. The method according to claim 38, wherein the database arrangement is structured so as to model a usage view, which includes what resources are combined to form a complete service instance and the time when that service instance exists.

46. The method according to claim 38, wherein the database arrangement structure is integrated in a data model for enabling control of each resource and the use of it in service instances.

47. The method according to claim 38, further comprising the steps of:
separating the database arrangement into two separate databases, and
keeping resource type data and resource instance data in one of said separate databases, and
keeping service type data and service instance data in the other of said separate databases.

48. The method according to claim 38, further comprising the steps of:
assigning types to resource and/or service attributes, and
using said attribute types to distinguish between different types of attributes.

49. The resource handler according claim 27, wherein the resource handler is a service type handler in an operational support structure for a telecommunications network, for creating and maintaining service type recipes and their relations.

50. The resource handler according to claim 49, wherein the service type recipes provide a framework for service types, operations on service types, parameters on service types, hierarchical relations between service types, hierarchical parameter relationship, and translation of service types and associated parameters values into resource requirements and service type requirements.

51. The resource handler according to claim 49, wherein the resource handler supports selecting between different types of required services, different types of required resources and different service instances.

52. The resource handler according to claim 51, wherein the selected resources requirements are transferred to a resource handler that does the actual resource allocation.

REMARKS

The specification has been amended and the claims have been replaced to place the application in better form for examination. Favorable consideration is respectfully solicited.

Respectfully submitted,

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EL766105365US

11/05/01

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

J Snead
(Typed or printed name of person mailing paper or fee)

J Snead
(Signature of person mailing paper or fee)

Attachment to Preliminary Amendment dated November 5, 2001

Marked Up Copy of Amendments
to the Specification Section Headings

Page 1, the section heading at line 1
[Title]

Page 1, the section heading at line 7
[TECHNICAL FIELD] --BACKGROUND--

Page 1, the section heading at line 19
[STATE OF THE ART]

Page 2, the section heading at line 31
SUMMARY [OF THE INVENTION]

Page 6, the section heading at line 10
DETAILED DESCRIPTION [OF THE INVENTION]

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to the Specification

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Paragraph beginning at page 13, line 11:

In step 2, assuming that the customer wants the product[, in the following is referred to a product, it should however be clear that this also covers a] or service (a product is used by example below), a feasibility check is made to check if it is possible to implement the product or service with the existing conditions, i.e. if all prerequisites are fulfilled. Now a "call" for this code is made. As the execution starts, this code uses the product type [is] input to look in the Product type hierarchy. By looking here it is possible to find out which (sub)products the DuoCom product is composed of. In this case the four product types ISDN Access, E-mail, Personal Homepage and 020-connection will be found. As they in turn may consist of [further] additional, more simple products, the Product type hierarchy is once again examined to see if the new products have sub products and so on until no more product types are found.

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sufficient amount of resources or existing product instances are available, so that it is possible to instantiate this new product instance.

Paragraph beginning at page 14, line 29:

All data is stored in a relational database(s), see FIG. 4 which shows [only] the table names and the fields in each table that has relations to/from them together with the relationship type, e.g., 1, n is one-to-many. The tables may be created by reading from standard text files with SQL commands.

Attachment to Preliminary Amendment dated November 5, 2001

Marked Up Copy of Amendments
to the Abstract

A resource handler for use in an operational support structure for managing a telecommunications network. The handler includes [comprises] a service and resource database containing information regarding network resources. The database arrangement is structured so that each resource in the network has a time of existence as well as a place in a hierarchy of [parent/child(s)] parent/child relations. The resource is defined by the following data: a point [(11)] identifier that has characteristics associated [to] with it, in the form of an abstract description of [its] the resources capabilities; an abstraction of [the] a common network element [(10) in the sense of] represented by a group of points [(11)] that are considered to belong together, and a connection [(12)] , which is defined by two connected points.